What Is Claimed Is:

1. A method of driving a liquid crystal display, comprising:

setting reference modulated data;

detecting a driving frequency of source data for a current frame; and

adjusting the reference modulated data in accordance with the detected driving frequency to modulate the source data.

2. The method according to claim 1, wherein the reference modulated data are set based on a desired reference frequency.

3. The method according to claim 1, further comprising:

dividing the source data into most significant bits and least significant bits; and

delaying the most significant bits for one frame period.

4. The method according to claim 3, wherein the delayed most significant bits are compared with current most significant

bits to select the reference modulated data from a look-up table based on the compared result.

5. The method according to claim 1, wherein the reference modulated data (Vmdata) are adjusted in accordance with the driving frequency by using one of the following equations if the source data of the current frame become larger than that of a previous frame,

$$VMdata = LRef \times (Ft/Fref)$$

$$VMdata = LRef^{(Ft/Fref)}$$

where LRef represents the reference modulated data, Fref is the reference frequency, and Ft represents the detected driving frequency.

6. The method according to claim 1, wherein the reference modulated data (Vmdata) are adjusted in accordance with the driving frequency by using one of the following equations if the source data of the current frame become smaller than that of a previous frame,

$$VMdata = LRef \times (Fref/Ft)$$

$$VMdata = LRef^{(Fref/Ft)}$$

where LRef represents the reference modulated data, Fref is the reference frequency, and Ft represents the detected driving frequency.

7. The method according to claim 1, wherein the reference modulated data bypass into an output stage if the source data of the current frame are equal to that of a previous frame.

8. A method of driving a liquid crystal display, comprising:

setting reference modulated data;

dividing a frequency band for each constant frequency band;

setting a different weighting value for each frequency band;

detecting a driving frequency of source data;

determining the frequency band including the detected driving frequency; and

assigning a weighting value of the frequency band including the driving frequency to the reference modulated data to adjust the reference modulated data, thereby modulating the source data.

9. The method according to claim 8, wherein the reference modulated data are based on a desired reference frequency.

10. A driving apparatus for a liquid crystal display, comprising:

a mode detector detecting a driving frequency of current source data; and

a modulator selecting reference modulated data from previously registered data and adjusting the selected reference modulated data in accordance with the detected driving frequency.

11. The driving apparatus according to claim 10, wherein the modulator includes a frame memory delaying most significant bits of the current source data for one frame period.

12. The driving apparatus according to claim 11, wherein the modulator compares the delayed most significant bits with current most significant bits to select the reference modulated data based on the compared result.

13. The driving apparatus according to claim 11, wherein the modulator adjusts the reference modulated data (Vmdata) using one of the following equations if the current source data become larger than the delayed source data,

$$VMdata = LRef \times (Ft/Fref)$$

$$VMdata = LRef^{(Ft/Fref)}$$

where LRef represents the reference modulated data, Fref is the reference frequency, and Ft represents the detected driving frequency.

14. The driving apparatus according to claim 11, wherein the modulator adjusts the reference modulated data (Vmdata) by using one of the following equations if the current source data become smaller than the delayed source data,

$$VMdata = LRef \times (Fref/Ft)$$

$$VMdata = LRef^{(Fref/Ft)}$$

where LRef represents the reference modulated data, Fref is the reference frequency, and Ft represents the detected driving frequency.

15. The driving apparatus according to claim 10, wherein the reference modulated data bypass into an output stage if the current source data are equal to the delayed source data.

16. The driving apparatus according to claim 10, further comprising:

a data driver applying data outputted from the modulator to a liquid crystal display panel;

a gate driver applying a scanning signal to the liquid crystal display panel; and

a timing controller applying the current source data to the modulator and the mode detector and controlling the data driver and the gate driver.

17. A driving apparatus for a liquid crystal display, comprising:

a mode detector detecting a driving frequency of current source data; and

a modulator selecting reference modulated data from previously registered data, setting a different weighting value for each frequency band having a plurality of frequency ranges, and assigning a weighting value of the frequency band including the detected frequency to the reference modulated data.

18. The driving apparatus according to claim 17, further comprising:

a data driver applying data modulated by the modulator to a liquid crystal display panel;

a gate driver applying a scanning signal to the liquid crystal display panel; and

a timing controller applying the current source data to the modulator and the mode detector and controlling the data driver and the gate driver.

19. The driving apparatus according to claim 10, wherein the modulator comprises,

a frame memory storing most significant bits of a current frame and outputting the most significant bits of a previous frame;

a reference look-up table comparing the current most significant bits with the previous most significant bits and outputting reference modulated data; and

an operator adjusting the reference modulated data, so that a response time of a liquid crystal is varied in accordance with a driving frequency.

20. A liquid crystal display comprising:

a liquid crystal display panel having a plurality of data lines and a plurality of gate lines thereon;

a mode detector detecting a driving frequency of current source data;

a modulator selecting reference modulated data from previously registered data and adjusting the selected reference modulated data in accordance with the detected driving frequency;

a data driver applying the data modulated by the modulator to the liquid crystal display panel;

a gate driver applying a scanning signal to the liquid crystal display panel; and

a timing controller applying the current source data to the modulator and the mode detector and controlling the data driver and the gate driver.

21. A liquid crystal display comprising:

a liquid crystal display panel having a plurality of data lines and a plurality of gate lines thereon;

a mode detector detecting a driving frequency of current source data;

a modulator selecting reference modulated data, setting a different weighting value for each frequency band having a plurality of frequency ranges and assigning a weighting value of the frequency band including the detected frequency to the reference modulated data;

a data driver applying the data modulated by the modulator to the liquid crystal display panel;

a gate driver applying a scanning signal to the liquid crystal display panel; and

a timing controller applying the current source data to the modulator and the mode detector and controlling the data driver and the gate driver.